Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Currently Amended) A method of decoding a symbol sequence in a received DS-CDMA signal ~~according to claim 1~~, comprising the steps of:

iterative calculation of a hard-decision vector, using a decision threshold having a value based on the probability of each ternary alphabet element of each symbol in the hard-decision vector;

demodulating the received signal, thereby providing a symbol sequence[[,]];

calculating a matrix product of the symbol sequence and [[the]] a Hadamard decoding matrix[[,]];

calculating an estimate of a decision threshold, assuming equal probability of the ternary alphabet element of each symbol in the symbol sequence[[,]];

calculating a hard-decision vector using the calculated decision threshold[[,]];

calculating an estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector[[,]];

calculating a decision threshold using the estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector[[,]]; and

iterating the steps of calculating a hard-decision vector, calculating an estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector and calculating a decision threshold using the estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector, until the calculation of a decision threshold converges or the number of iterations reaches a predetermined maximum number of iterations.

3. (Currently Amended) [[A]] <u>The</u> method according to claim 2, wherein the symbol sequence is a sequence of acquisition indicators in an acquisition indicator channel and further comprises the step of:

selecting the AI of interest from the calculated hard-decision vector using a predetermined index.

4. (Canceled)

5. (Currently Amended) A <s>User</s> <u>user</u> equipment <u>apparatus capable of decoding a symbol sequence in a received DS-CDMA signal,</u> <s>according to claim 4,</s> comprising <s>means for</s>:

<u>means for iterative calculation of a hard-decision vector, using a decision threshold having a value based on the probability of each ternary alphabet element of each symbol in the hard-decision vector;</u>

means for demodulating the received signal, thereby providing a symbol sequence[[,]]<u>;</u>

means for calculating a matrix product of the symbol sequence and [[the]] <u>a</u> Hadamard decoding matrix[[,]]<u>;</u>

means for calculating an estimate of a decision threshold, assuming equal probability of the ternary alphabet element of each symbol in the symbol sequence[[,]]<u>;</u>

means for calculating a hard-decision vector using the calculated decision threshold[[,]]<u>;</u>

means for calculating an estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector[[,]]<u>;</u>

means for calculating a decision threshold using the estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector[[,]]<u>; and</u>

means for iterating the steps of calculating a hard-decision vector, calculating an estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector and calculating a decision threshold using the estimate of the probability of each ternary alphabet element of each symbol in the hard-decision vector, until the calculation of a decision threshold converges or the number of iterations reaches a predetermined maximum number of iterations.

6. (Currently Amended) The apparatus of ~~User equipment according to~~ claim 5, ~~where~~ wherein the symbol sequence is a sequence of acquisition indicators in an acquisition indicator channel and further comprises[[:]] means for selecting the AI of interest from the calculated hard decision vector using a predetermined index.

7. (New) An apparatus, comprising:
a RF transceiver;
an inner receiver coupled to the RF transceiver;
a channel decoder coupled to the inner receiver;
a controller coupled to the RF transceiver, the inner receiver and the channel decoder; and
a memory coupled to the controller, wherein the apparatus is capable of selecting acquisition indicators comprising calculating a decision threshold using an estimate of a probability of each ternary alphabet element of each symbol in a hard-decision vector, until a calculation of a decision threshold converges or a number of iterations reaches a predetermined maximum number of iterations.

8. (New) The apparatus of claim 7, wherein the inner receiver comprises a channel equalizer.

9. (New) The apparatus of claim 7, further comprising at least one of a speaker, microphone, keyboard, and display coupled to the controller.

10. (New) The apparatus of claim 7, wherein the inner receiver comprises a channel equalizer.

11. (New) A method of decoding a symbol sequence in a received DS-CDMA signal with a user equipment, comprising the steps of:

demodulating a received signal;

computing a matrix product of the demodulated signal and a Hadamard decoding matrix;

estimating a decision threshold;

calculating a hard-decision vector with the computed matrix product;

estimating probability of each ternary alphabet element of each symbol in the hard-decision vector;

calculating a new decision threshold using the estimate of the estimating probability step; and

iterating until a calculation of a decision threshold converges or the number of iterations reaches a predetermined maximum number of iterations to select hard-decision vector elements.